

Chapter-6

Status of Under Execution Hydro Electric Projects for 12th Plan & beyond

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State Comm. Sch. (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
A.	Hydro Capacity as per programme of 12th Plan			
i)	Projects Commissioned during 12th Plan			
	Commissioned during 2012-13			
	Central Sector			
1.	Chamera-III 3x77= 231 MW NHPC Broad Features : Dam –68m High, 78 m length , concrete gravity HRT- 6.5m x 15.93 km P.House- underground 100mx 20.6mx 40m Turbine- V.Francis SWYD- 11/220 kV Cost: Original: 1405.63 Latest: 1405.63	H.P. <u>2010-11</u> 2012-13	Unit#3: Commissioned on 07.06.2012. Unit#2: Commissioned on 12.06.2012. Unit#1: Commissioned on 28.06.2012.	
2.	Chutak 4x11 = 44 MW NHPC Broad Features: Barrage- 5 bays, 47.5 long HRT- D-5.9m , L- 4.37Km P.House- Underground 81mx 15.5 mx 34.5 m Turbine- V. Francis SWYD- 11/33 kV Cost: Original: 621.26 Latest: 913.25	J&K <u>2010-11</u> 2012-13	Unit#2: Commissioned on 08.11.2012. Unit#3: Commissioned on 11.11.2012. Unit#1: Commissioned on 22.11.2012. Unit#4: Commissioned on 28.01.2013.	
3a.	Teesta Low Dam-III 4x33 = 132 MW NHPC Broad Features : Barrage–140m L , 32.5m Height Penstock-4x 7m x 50m P.House- Surface 125mx 22mx56m Turbine- Kaplan Net head- 21.34m SWYD- 11/220 kV Cost: Original:768.92 Latest: 1628.00	West Bengal <u>2006-07</u> 2012-13	Unit-1: Commissioned on 30.01.2013 Unit-2: Commissioned on 20.01.2013. Unit-3: Commissioned on 24.02.2013.	
	State Sector			
4a.	Bhawani Kattalai Barrage-III, 2x15 = 30 TANGEDCO 27.03.02 Broad Features: Barrage –22 gates P.House- Surface Turbine- Bulb Cost: Original: 99.75	Tamil Nadu <u>2006-07</u> 2012-14	U #1: Commissioned on 08.12.2012.	

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	Latest: 442.73 Cr.			
5.	Myntdu, MeECL 20.09.99/ 2x42+1x42 = 126 MW Broad Features: Dam –63m High HRT- 3316.46mx3.4m dia Power House- Surface Turbine- V. Francis Cost: <u>Original: 363.08</u> Latest: 965.93	<u>Megh.</u> <u>2006-07</u> 2012-13	Unit #3: Commissioned on 07.03.2013.	
6.	Private Sector Budhil Lanco Green Power Pvt Ltd 1.06.2005/ Jan, 06 (FC) 2x35=70 MW Broad Features: Dam-58m High HRT-4m x 6028m. Power House- underground Turbine- V. Francis Cost: <u>Original: 418.80</u> Latest: 418.80	<u>H.P.</u> <u>2008-09</u> 2012-13	Unit#2: Commissioned on 26.05.2012. Unit#1: Commissioned on 30.05.2012.	
Commissioned during 2013-14				
	Central Sector			
3b	Teesta Low Dam-III 4x33 = 132 MW NHPC Broad Features : Barrage – 140m long , 32.5 m high Penstock-4x 7m x 50m P.House- Surface 125mx 22mx56m Turbine- Kaplan Net head- 21.34m SWYD- 11/220 kV Cost: <u>Original: 768.92</u> <u>(12/02)</u> Latest: 1628.00	<u>West</u> <u>Bengal</u> <u>2006-07</u> 2013-14	Unit-4: Commissioned on 01.04.2013.	
7.	Uri-II NHPC 01.09.2005 4x60 = 240 MW Broad Features : Dam – 52m High, 172m long, concrete gravity HRT- 8.4m x 4.27km P.House-Underground Turbine- V. Francis TRT- 8.4 m dia x 3.78 km long SWYD- 11/400 kV Cost: <u>Original:1724.79</u>	<u>J&K</u> <u>2009-10</u> 2013-14	Unit#1: Commissioned on 25.09.2013. Unit#3: Commissioned on 27.09.2013. Unit#2: Commissioned on 16.11.2013. Unit#4: Commissioned on 02.02.2014.	

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	Latest: 2081.00			
8.	Nimoo Bazgo NHPC 24.08.2006 3x15 = 45 MW Broad Features: Dam –57.5m High, concrete Spillway- 5 x 65m P.House- Surface Turbine- V. Francis SWYD- 11/33 kV Cost: Original: 611.01 Latest: 936.10	<u>J&K</u> <u>2010-11</u> 2013-14	Unit#3: Commissioned on 30.10.2013. Unit#2: Commissioned on 31.10.2013. Unit#1: Commissioned on 02.11.2013.	
9a.	Parbati-III NHPC 09.11.2005 4x130 = 520 MW Broad Features : Dam – 43m High, 229 m long, Rockfill type HRT- 7.25m x 7.98km P. House -Underground Turbine- V. Francis SWYD- 13.8/400 kV Cost: Original: 2304.56 Latest: 2716.00	<u>H.P.</u> <u>2010-11</u> 2013-15	Unit#1: Commissioned on 18.02.2014. Unit#2: Commissioned on 27.02.2014. Unit#3: Commissioned on 15.03.2014.	
10a.	Rampur SJVNL 16.12.2005/25.01.07 6x68.67= 412 MW Broad Features: HRT-10.5m x 15.08Km S.Shaft- 38m x 149m P.House- Surface Turbine- Francis Switchyard – 400 kV Cost: Original: 2047.03 Latest: 3337.91	<u>H.P.</u> <u>2011-12</u> 2013-15	Unit#1: Commissioned on 23.03.2014. Unit#2: Commissioned on 21.03.2014. Unit#5: Commissioned on 29.03.2014.	
State Sector				
11.	Bhawani Kattalai Barrage-II 2x15 = 30 MW TANGEDCO 11.6.99 Broad Features: Barrage –22 gates P.House- Surface Turbine- Bulb Cost: <u>Original: 99.15</u> Latest: 497.46.	<u>Tamil Nadu</u> <u>2006-07</u> 2013-14	Unit#1: Commissioned on 27.08.2013. Unit#2: Commissioned on 06.09.2013.	
4b.	Bhawani Kattalai Barrage-III, 2x15 = 30 TANGEDCO 27.03.02 Broad Features: Barrage –22 gates P.House- Surface Turbine- Bulb	<u>Tamil Nadu</u> <u>2006-07</u> 2013-14	U #2: Commissioned on 25.09.2013.	

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	Cost: <u>Original:</u> 99.75 Latest: 442.73			
	Private Sector			
12.	Chujachen Gati Infrastructure Ltd, Secunderabad 30.11.2004 (State Govt.) 2x49.5= 99 MW Broad Features: Dam – Rangpo- 48.5m High Rongli- 41m High HRT- Rampo-3.3m x 2578m Rongli-3.5m x 2256m Common-5.2m x 3225m S. Shaft-12m x 104m P.House- Surface Turbine- V. Francis Cost: <u>Original:</u> 448.76 Latest: 1044.50	<u>Sikkim</u> <u>2009-10</u> 2013-14	Unit#2: Commissioned on 20.04.2013. Unit#1: Commissioned on 21.04.2013.	
	Commissioned during 2014-15			
	Central Sector			
9b.	Parbati-III NHPC 09.11.2005 4x130 = 520 MW Broad Features : Dam – 43m High, 229 m long, Rockfill type HRT- 7.25m x 7.98km P. House -Underground Turbine- V. Francis SWYD- 13.8/400 kV Cost: <u>Original:</u> 2304.56 Latest: 2716.00	<u>H.P.</u> <u>2010-11</u> 2014-15	Unit#4: Commissioned on 22.05.2014	
10b.	Ram Pur SJVN 16.12.2005/25.01.07 6x68.67= 412 MW Broad Features: HRT-10.5m x 15.08Km S.Shaft- 38m x 149m P.House- Surface Turbine- Francis Switchyard – 400 kV Cost: <u>Original:</u> 2047.03 Latest: 3337.91	<u>H.P.</u> <u>2011-12</u> 2014-15	Unit#4: Commissioned on 12.06.2014 Unit#3: Commissioned on 31.07.2014 Unit#6: Commissioned on 04.12.2014	
13a.	Kol Dam NTPC 30.6.2002/Oct.2002 4x200 = 800 MW Broad Features : Dam – 163m High, Rock & Gravel fill Penstock Tunnel: 4nos. 6.45m dia, 1600m long P.House- Surface Turbine- V. Francis Cost: <u>Original:</u> 4527.15 Latest: 7220.00	<u>H.P.</u> <u>2008-10</u> 2014-16	Unit#2: Commissioned on 30.03.2015 Unit#1: Commissioned on 31.03.2015	

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Commissioned during 2015-16				
Central Sector				
13b.	Kol Dam NTPC 30.6.2002/Oct.2002 4x200 = 800 MW Broad Features : Dam – 163m High, Rock & Gravel fill Penstock Tunnel: 4nos. 6.45m dia, 1600m long P.House- Surface Turbine- V. Francis Cost: Original: 4527.15 Latest: 7220.00	<u>H.P.</u> <u>2008-10</u> 2015-16	Unit # 3: Commissioned on 10.04.2015 Unit # 4: Commissioned on 12.06.2015	
State Sector				
14.	Baglihar-II JKPDC 19.03.2012 3x150= 450 MW Broad Features: HRT – 10.15 m dia circular & 1888.8 m long Surge Shaft: 27.5 m dia & 97.5 m high restricted orifice type Power House: Underground TRT: D- 10.05 m L-342.6 m Cost: Original: 3113.19 Latest: 3113.19	<u>J&K</u> <u>2015-16</u> 2015-16	Unit # 1 : Commissioned on 05.09.2015. Unit # 2 : Commissioned on 29.09.2015. Unit # 3 : Commissioned on 26.10.2015.	
15a.	Lower Jurala TSGENCO, 04.12.2008 6x40=240 MW (120 MW likely to slip) Broad Features: Intake: 18 vents (3 vents for each unit) 4.7m width, Power House- Surface, Turbine- Bulb Design Head- 20m SWYD- 220 kV Cost: Original: 908.34 Latest: 1969.14	<u>Telengana</u> <u>2011-13</u> 2015-17	Unit # 2: Commissioned on 30.09.2015. Unit #1: Commissioned on 14.10.2015.	
Private Sector				
16.	Shrinagar AHPC Ltd.. 14/06/2000/ FC 4x82.5=330 Broad Features: Dam –66.5m High, concrete gravity HRT- 13m x 889m Penstock-4x 5.6m x 114m P.House- Surface Turbine- Francis Cost: Original: 1699.12 Latest: 2069.00	<u>Uttara khand</u> <u>2005-06</u> 2015-16	Unit # 1: Commissioned on 10.04.2015 Unit # 2: Commissioned on 08.06.2015 Unit # 3: Commissioned on 20.04.2015 Unit # 4: Commissioned on 03.06.2015	

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17.	Jorethang Loop M/s DANS Energy 2x48 = 96 MW Broad Features: Barrage: Gravity Floor on Permeable Foundation 15 m High . HRT : D- 7m L-6.780km Surge Shaft :59m Height & 25m dia. Pressure Shaft : 172.60m length & 6m dia. Power House : Surface TR-Cut & Cover Conduit & 46.4m length. Switchyard: Outdoor, 220 KV/11KV Cost: <u>Original: 543.15</u> Latest : 543.15	<u>Sikkim</u> <u>2012-13</u> 2015-16	Unit # 1: Commissioned on 22.09.2015 Unit # 2: Commissioned on 23.09.2015	
A	Hydro Capacity for benefits during 12th Plan			
	Central Sector			
18.	Kishanganga NHPC 14.01.2009 3x110 = 330 MW Broad Features : Dam – 77m High, concrete gravity HRT- 5.3m x 24 km long S.Shaft-15m dia x 127m Height P.House- Underground 103mx 21m x 45.5m. Turbine- Pelton wheel Swyd.- 220 kV Cost: <u>Original:3642.04</u> Latest: 5497.72	<u>J&K</u> <u>2015-16</u> 2016-17 (Critical)	Dam & Intake works:- Spillway concreting- 33213 cum completed out of 45000 cum. CFRD Embankment- Completed. Construction of Cut off Wall-2627 Sqm completed out of 2650 Sqm.. HRT:- Excavation completed by TBM/ DBM. Lining of TBM portion (14.7 km) completed and 5410m lining of DBM portion completed out of 8410m. Surge Shaft:- Concreting completed. Pressure Shaft liner:- 329 m liner completed out of 1000 m. Power House:- 11468 cum concreting completed out of 12650 cum. TRT : -Excavation Completed. 630m overt lining out of 849m completed. E&M: - Unit # 1: Stator Lowered. Unit # 2: Stator Building taken up. Unit # 3: Erection of Turbine housing & Distributor Completed. Critical Area: 1) Dam and associated HM works. 2) Filling of reservoir by 20th Aug.2016 3) Power evacuation system.	-Law and order problems viz frequent bandhs and curfew. -Local agitation due to people demanding employment in NHPC. -Completion of Power evacuation arrangement. (PGCIL)
19.	Parbati-II NHPC 11.09.2002 4x200 = 800 MW Broad Features : Dam – 85m High, 109. m long at top, concrete gravity type HRT- 6m x 31.23km P.House- Surface 23.5mx 39.7mx 123m. Turbine- Pelton Swyd.- 13.8/400 kV Cost: <u>Original:3919.59</u> Latest: 7818.68	<u>H.P.</u> <u>2009-10</u> 2018-19	Dam & Intake Structure- Concreting completed. Head Race Tunnel- 26740 m Excavation out of 31525m completed Total Overt lining: 22098 m lining out of 31525 m completed. Power House: Concreting completed. Jiwa Nallah Feeder Tunnel: 4380 m Excavation out of 4560 m completed. 1359 m Concreting out of 4560 m completed. E&M Works: Unit # 1: Boxing up of unit is in progress. Unit # 2: Stator & Rotor lowered in pit. Installation of MIV & Bus duct completed. Unit # 3: Stator lowered, MIV lowered and aligned. Unit # 4: Erection of Stator frame completed. MIV lowered & alignment completed.	Poor geology in HRT especially in Face-4 (TBM-Face).

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			<p>HM Works: Erection of ferrules in both Pressure Shafts completed and testing & commissioning of surge shafts gate completed. Hydraulic support system & Assembly of spillway Radial Gate has been fixed in all the three (3) Bays.</p> <p>Critical Area : HRT.</p>	
20.	<p>Tapovan Vishnugad NTPC 11.08.2004/Nov, 2006 4x130 = 520 MW Broad Features : Barrage-5 bays of 12m HRT- 5.4m x 11.97km P.House- underground Turbine- V.Pelton Cost: <u>Original:</u> 2978.48 Latest: 3846.30</p>	<p><u>Uttara khand</u> 2012-13 2018-19</p>	<p>River diversion achieved on 13.04.2013 Barrage: Excavation completed and Concreting 46735 cum out of 141295 cum completed. HRT: 7651.5 m excavation completed out of 12087.9 m, TBM struck due to cavity (5.5km completed out of 8.8km) PH Cavern: Excavation completed and concreting 2000 cum out of 2800 cum completed. Desilting Chamber & Intake: 2.12 lakhs m³ out of 4.73 lakh m³ Excavation completed. TRT: Excavation completed. Surge shaft: Excavation & Lining completed. Penstock: Excavation completed and Lining of 794 m out of 1372 m completed. E&M works: Pit liner erection on all 4 units completed. Turbine housing erection of all 4 units completed. Erection of EOT crane in BVC & service bay completed. Critical : HRT</p>	<p>- Contract for HRT package terminated on 9th Jan, 2014 due to poor progress.</p> <p>-HRT package Re-tendered on 15.05.2014 was annulled. Now, the fresh tender is under progress.</p>
21.	<p>Teesta Low Dam-IV NHPC 30.09.2005 4x40 = 160 MW Broad Features : Dam – 45m High, 511m long, concrete gravity P. House- Surface 130mx 24mx 63m Turbine- Kaplan SWYD- 11/220 kV Cost: <u>Original:</u> 1061.38 Latest: 1929.15</p>	<p><u>West Bengal</u> 2009-10 2015-17 (Sept., 2016)</p>	<p>Civil Works: Power House: Concreting almost completed. Concrete in Power Dam: 78401 cum completed out of 80300 cum. RCC Concreting: Completed. E&M Works: Unit#1: Boxing up completed. Unit#2: Boxing up completed. Unit#3: Runner, Rotor & Stator assembly completed in Service bay. Erection of Switch Yard is in progress.</p> <p>HM Works: 93.4% erection of Radial gates completed. Erection of penstock liner completed. 90.1% erection of Intake Stoplog gates completed. All 12 no's draft tube gates lowered.</p> <p>Critical : Switchyard works.</p>	<p>- 2 Units likely to be Commissioned during 2015-16</p>
22a.	<p>Subansiri Lower NHPC 09.09.2003 8x250= 2000 MW Broad Features : Dam –116m High, concrete gravity HRT- 8 x 9.5m x 1145m Power House- Surface Turbine- Francis SWYD- 16/400 kV Cost: <u>Original:</u> 6285.33 Latest: 18063.89</p>	<p><u>Arunachal Pradesh Assam</u> 2009-11 2020-21</p>	<p>Dam: Excavation- 169441 cum completed out of 173000 cum. Concreting: 575426 cum completed out of 1823782 cum. Intake Structure: 261377 cum concreting completed out of 279454 cum. Head Race Tunnel (I-VIII): 7050 m heading excavation completed out of 7124m. 4279 m benching excavation completed out of 7124 m. 3199 m concrete overt lining completed out of 7124 m. Surge Tunnels (8 nos.): 3109 m heading excavation completed out of 3545 m. Pressure Shaft- Vertical Pressure Shaft Slashing: 199 m excavation out of 384 m completed. Surface Power House: Concreting: 124887 cum out of 302600 cum completed. E&M Works:</p>	<p>- Signing of MoU with State Government of Assam.</p> <p>- Issue of Downstream Impact Assessment & demand for stoppage of works by anti dam activists.</p> <p>-Since 16.12.2011 works stopped due to agitation by various activists of Assam.</p>

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			<p>Unit #1: Elbow erection (1 to 6) and Turbine stay ring and Spiral case erection completed.</p> <p>Unit #2: Elbow erection (2 to 6) and Turbine stay ring and Spiral case erection completed.</p> <p>HM Works: Erection of diversion tunnel gates 23% completed. Erection of Intake-5: 2% completed. Erection of Intake 7 & 8 – 20% completed each. 201 m pressure shaft steel liner erected out of total 1594 m.</p> <p>Work stopped since 16.12.11 due to agitation launched by various activists against construction of Subansiri Lower HE Project. In this regard, as decided in the tripartite meeting dated 06.12.13, discussions between Expert Group formed at the request of AASU (All Assam Students Union) and Experts of Govt. of India & NHPC was held on 23.12.13. Last meeting between Expert Group of Assam and Experts of Govt. of India was held on 02.06.14 at Guwahati. Thereafter, meetings with Expert Group of Assam on 10.12.2014 and with various Stakeholders of Subansiri Lower Project on 11.12.2014 were held to discuss the issues. The meetings were Co-chaired by Hon'ble MOS (I/C) for Power, Coal and New & Renewable Energy and Hon'ble MOS (I/C) for Skill Development, Entrepreneurship, Youth Affairs & Sports. As decided in stakeholders meeting on 11.12.2014, a Project oversight Committee (POC) has been constituted vide MoP's OM dated 13.01.2015. 11 meetings of the POC have been held so far and draft report prepared.</p>	
23.	<p>Kameng NEEPCO 02 12 2004 4x150 = 600 MW Broad Features: Dam :Bichom-69m High, 247.3m long. Tenga – 24.4 High, 103m long. HRT- 6.7m dia, 14.45 km. High Pressure Tunnel (HPT)Total length 3.64 km Surge Shaft: 25m dia, 70m Height P.House- semi-U/G Turbine- Francis</p> <p>Cost: <u>Original: 2496.90</u> Latest: 6085.24</p>	<p>Arunachal Pradesh <u>2009-10</u> 2016-17 (Critical)</p>	<p>Bichom Dam: Excavation 764383/780000 cum and Concreting 271386/404748 cum completed.</p> <p>Tenga Dam: Excavation 149776 / 150000 cum and Concreting 87995 / 92850 cum completed.</p> <p>HRT: Excavation: 14441 / 14458 RM completed. Lining of 8208.5 out of 14455m completed.</p> <p>Surge Shaft: Orifice concrete Lining completed.</p> <p>HPT: Boring of vertical and horizontal portion completed & Open excavation of Surface Penstock including valve house 430436/462504 cum completed.</p> <p>Power House & Tail Race: Excavation completed. Concreting 79766 / 85379 cum completed.</p> <p>HM Works: Fabrication of penstocks completed and 92% fabrication & erection of gates done.</p> <p>Unit erection: Unit # 1 & 2: Assembly of stator and Rotor is in progress. Assembly of Runner & Shaft for Unit #1 is in progress. Unit # 2 & 3: Erection of spiral case has been completed Unit # 3 & 4: Hydro test of spiral case completed.</p> <p>Critical: 1. Dam construction & associated HM works 2. HRT lining</p>	<p>-Dam and HRT is critical. - Permission for quarry operation from GoAP (FRA clearance)</p>
24.	<p>Pare NEEPCO 4.12.2008 2x55 = 110 MW Broad Features: Dam : 63m High, Con. Gravity Spillway – 3 nos. gates</p>	<p>Arunachal Pradesh <u>2013-14</u> 2016-17 (Critical)</p>	<p>Civil Works: Diversion Tunnel: DT and construction of u/s and d/s coffer dams completed.</p> <p>Dam: Excavation - 367358 cum out of 398000 cum completed. Concreting – 51675 cum out of 183000 cum completed.</p> <p>Head Race Tunnel: Boring and Lining completed.</p> <p>High Pressure Tunnel : Boring completed.</p>	<p>- Concreting of Dam & associated HM works are critical.</p>

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	Size of gate: 10.4m (w)X 12 m(H) Crest Level: 216 m HRT: Dia – 7.5 M Length– 2810.75M Pressure Shaft: Dia: 6.4 M Length: 220M Bifucation Penstock Dia: 4.5 M Power House: Surface P.H. Size: 68 mX 25m Type of Turbine: VF TRC: Open channel 60.62 M wide 49M long Cost: Original: <u>573.99</u> Latest: 1226.27		Surge shaft: Open excavation, boring and lining completed. Power House: Excavation in pit completed. Concreting 37373 / 40500 cum completed. Hydro Mechanical Works: Erection of steel liner – 174.60 out of 274.50 m completed. Erection of DT inlet gate completed. Unit erection: Unit-1: Rotor & Stator Assembly completed in service bay. HV test for stator is in progress. Erection of Turbine Assembly (95% completed) Unit-1 & 2: Erection of spiral casing & MIV completed. Critical: 1. Dam construction & associated HM works	
25.	Tuirial NEEPCO Revised CCEA 14.01.2011 2x30= 60 MW Broad Features: Dam: Earthfill, L – 250 M H – 75 M Diversion Tunnel: Partly circular & partly modified horse shoe Diameter Diverted concrete portion 6 M steel liner portion 6M, 5.6 M & 3.6 M Power tunnel: Concrete Portion – 200 M Steel Liner Portion – 140M, 80M & 2.30 M Cost: <u>Original:368.72</u> Latest: 1381.71	<u>Mizoram</u> <u>2006-07</u> 2016-17 (Critical)	Diversion Tunnels (2 Nos.): Excavation and lining completed. Main Dam: 4.76 lac cum excavation out of 5.19 lacs cum completed & filling 24.36 lacs cum out of 29.13 lacs cum completed. Spillway: Excavation almost completed. Concreting 102389 cum out of 119366 cum completed. Power House & Switchyard: Excavation almost completed. 12387.5 cum of Concreting in Power House out of 22010 cum is completed. E&M works : Pedestal for D/Tube linear for U-1 has been completed. Critical: 1. Power house works	- Slope failure in Power house area. - Slope stabilization completed. - Poor approach roads.
State Sector				
26.	Uhl-III Beas Valley Power Corporation Ltd. (HPSEB) 19.09.02 / (TEC -2x50 MW) 3x33.3 =100 MW (Revised vide HPSEB letter dt. 19.01.07. Broad Features: HRT-4.15m x 8.47 km S.Shaft- 13m x 57m Penstock- 3.4m x 1860m P.House- Surface Turbine- V. Francis Cost: <u>Original: 431.56</u> Latest: 940.84	<u>H.P.</u> <u>2006-07</u> 2017-18	Almost all civil works completed except lining of HRT. 4804 m (4634 + 444 Done by earlier contractor) lining of HRT completed out of 8459m. E&M:- All units boxed up. Critical : HRT	- HRT lining critical.
27.	Kashang-I H.P. Power Corpn. Ltd. 31.07.08	<u>H.P.</u> <u>2013-14</u>	Trench Weir: concreting completed. HRT: Excavation and lining completed. Pressure Shaft: Ferrule erection almost completed.	- E&M works are Critical.

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	65 MW Broad Features: HRT-3.5m x 4.115, 2 km long S.Shaft- 2.6m dia & 0.5 m backfill and 1346 m long TRT: 335 m combined 6/4.5 m D. stream Cost: Original: 478.02 Latest: 478.02	2015-16	E&M works: Unit is expected to be boxed up by Feb, 2016. Power House & Transformer hall concreting has been completed. Critical: Transmission Line.	
28.	Kashang-II & III H.P. Power Corpn. Ltd. 1x65 + 1x65= 130 MW Cost: Original: 601.78 Latest: 601.78	<u>H.P.</u> <u>2013-14</u> 2019-20	Works of Kerang-Kashang link (KK Link) tunnel awarded to M/s Patel Engineering Ltd. Excavation of balancing reservoir – 3 is in progress. Excavation of K-K Link tunnel was in progress, however recently, the works have been stopped by NGT. Work on BR-III resumed on 17.09.2015 and work of concrete lining Face-1 started on 14.10.2015. - E&M works are in progress along with works of Kashang – I works and are in advance stage of completion.	-Works on KK Link tunnel getting delayed due to continuous agitation by Lippa villagers. -The matter is sub-judice.
29.	Sainj H.P. Power Corpn. Ltd. 2 X50=100 MW 29.12.2010 Cost: Original 784.56 Latest 784.56	<u>H.P.</u> <u>2014-15</u> 2016-17	Barrage: Concreting almost completed. HRT: Excavation completed. Lining almost completed. Surge Shaft: Excavation completed. Pressure Shaft: Excavation almost completed. 216m out of 536 m lining completed. Power House: Excavation completed. TRT: Excavation and Concreting completed. Unit Erection: Unit-1- Stator & Rotor lowered. Unit-2- Stator & Rotor works are under progress in service bay.	- Construction of surge shaft & pressure shaft is critical.
30.	Swara Kuddu H.P. Power Corpn. Ltd. Clearance: 10.11.2004 3x37= 111 MW Broad Features: Diversion Structure: 10.45m high Piano Key Weir. HRT- D-Shaped, 5m dia, 11.145Km long. Power House- Under ground Turbine- 500 rpm VF. Switchyard: 220 Kv. Cost: Original: 558.53 Latest: 1181.90	<u>H.P.</u> <u>2010-11</u> 2018-19	HRT: 10060 m out of 11364 m from all faces of HRT excavation completed and 3298 m out of 11364 m concreting is completed. Surge Shaft: 70.7 m completed out of 77 m of shaft lining. Power House: Excavation completed and concreting almost completed. TRT: lining completed. Unit # 3 & 2 : Both units boxed up. Unit # 1: Stator & Rotor installation completed. Critical : HRT	- Works badly suffered due to encounter of poor geology in HRT. - Contractual Issues. -Contract for HRT package terminated on 9.1.14. Re-awarded in Nov' 2014 to M/s. HCC
31.	Nagarajuna Sagar TR APGENCO 17 01 05 2x25=50 MW Broad Features: Dam –29.5m High Spillway- 21nos gate Penstock- 2x 5.35m P.House- Surface Turbine- V. Kaplan Cost: Original: 464.63	<u>A.P.</u> <u>2008-09</u> 2015-16	- All works completed. - Initial spinning for both units completed. - Commissioning held up due to non-availability of water, Units likely to be commissioned on availability of water.	-Availability of water.

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State Comm. Sch. (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
	Latest: 958.67			
15b.	Lower Jurala TSGENCO, 04.12.2008 6x40=240 MW (120 MW likely to slip) Broad Features: Intake: 18 vents (3 vents for each unit) 4.7m width, Power House- Surface, Turbine- Bulb Design Head- 20m SWYD- 220 kV Cost: Original: 908.34 Latest: 1969.14	<u>Telengan</u> <u>a</u> 2011-13 2015-17	Weir: Completed. Power House: Almost completed. Unit Erection: The Units 1,2,3 which were completed and units 4,5,6 which are under different stages of erection were completely submerged in water on 30.07.2014 due to sudden gush of water through the upstream gate of Unit No.4. It was dewatered by 03.09.2014. Unit #2: Commissioned on 30.09.2015. Unit #1: Commissioned on 14.10.2015 Unit #3: Likely to Commission in Jan-2016. Unit # 4: Rectification works are in progress. Unit # 5: Rotor rim assembly completed Unit # 6 : Erection of stay ring and upstream liner completed.	- Power House flooded on 30.07.2014 during synchronization process for Unit# 1 to Unit# 3. - Restoration works completed. -Availability of water for commissioning.of U# 4, 5 & 6.
32.	Pulichintala TSGENCO 120 MW (4x30 MW) 25.04.2007 Broad Features: Design Head: 24 M Power House: Surface Turbine : V. Kaplan Annual Energy: 220 MU Cost: Original: 380.00 Latest: 563.49	<u>Telengan</u> <u>a</u> 2009-11 2016-17	Dam is under construction by Irrigation Department. Power House: The excavation of power house completed and 76596 cum concreting done against 89850 cum.. E&M Works: EOT Crane: Erection completed. Available up to Unit #3. Unit #1: Turbine erection completed. Stator lowered. Unit #2: Turbine erection completed. Unit #3 & #4: Draft tube assembly completed.	- E&M issues of mismatch of parts (BHEL)
33.	Pallivasal KSEB 2x30= 60 MW 31.01.2007 Broad Features: HRT: 3.50m X 3396m Surge Shaft: 7.0m X 49m Pressure Shaft: 2.50m X 1019.20m Penstock: 2.nos., 1161.20m each. Power House: Surface Turbine : Pelton S.Yard: 220kV – Single bus Cost: Original: 222.00 Latest : 284.69	<u>Kerala</u> 2010-11 2018-19	Intake structure: Excavation – 28398/33492 cum completed. Leading channel of Water conductor system replaced by cut & cover/soil tunnel and accordingly intake is shifted. HRT: Excavation –2858/3330 m completed. Overt conc. 1634/3330 m completed. Invert Conc.. – 1637/3330 m completed. Surge Tank/Forebay: Exc.–7640/13400 cum. Conc.423/843 cum. Pressure Shaft: Excavation completed. Fabrication of steel liner completed and erection of 96/1096 m completed. Surface penstock: Excavation –105204/122600 cum. Concreting- 11401/12850 cum. Fabrication completed and 1477m out of 2036m erection completed. Power House: Excavation completed. Concreting 3980/11225cum. Tail race Channel (2 Nos.): Excavation & lining completed. E&M Works: 75% supply completed. Erection yet to start.	- Slow progress of civil works. -Poor Geology. -Contractual Issues. -Works stopped by the civil contractor from 28.01.2015.
34.	Thottiyar KSEB 1x30 + 1x10= 40 MW 05.06.2008 Broad Features: Weir: 222m Long 11 blocks 7.5m height Tunnel: Circular 2.6m dia 199m long. Power House: Surface Turbine : Vertical Pelton Cost: Original: 136.79 Latest: 150.02	<u>Kerala</u> 2012-13 2018-19	Civil Works: Weir: 3258 cum excavation out of total 5850 cum and 1598 Cum concreting out of 8690 Cum completed. Approach Channel & Intake: 3184 cum out of 9100 cum done. Power Tunnel : Excavation completed. Power House, switchyard & allied works: 31390 cum excavation out of 44500 cum and 2658 cum concreting out of 15675 m done. E&M and HM Works: Supply of equipment in progress. Erection yet to start.	-Slow progress of works. -Contractual Issues.
35.	New Umtru MePGCL,	<u>Meghalay</u> <u>a</u>	Dam: Excavation 86662 cum out of 208685 cum completed. Concreting 62486 cum out of 73488 cum completed.	

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State Comm. Sch. (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
	2x20=40 Broad Features: Diversion Structure- Gated structure (FRL- 130.1m, MDDL-123.3m) HRT- 5m dia, 750m long P.House- Deep Set SWYD- 132 kV Cost: <u>Original:</u> 226.40 Latest: 461.27	<u>2011-12</u> 2016-17	Intake: Excavation of 26984 cum out of 30000 cum completed. Concreting done which is more than estimated quantity of 13000 cum. HRT: Excavation completed. Concreting 16686 cum out of 17800 cum completed. Pressure Shaft: Completed. Surge shaft: Open excavation completed and concreting done which is more than estimated quantity of 6166 cum. Power House: Excavation completed & Concreting 27475.77 cum out of 41475.39 cum completed. TRT: Open excavation & tunnel boring completed & lining also almost completed. E&M Draft tube erection completed for both units. Turbine erection of embedded of both the units completed.	
	Private Sector			
36.	Sorang Himachal Sorang Power corporation Ltd. June, 2006/ 2x50= 100 MW Broad Features: HRT- 1.5 km Trench Weir-59 m P.House- underground Turbine- Pelton Gross Head-626 m SWYD- 11/400 kV (GIS) Cost: <u>Original:</u> 586.00 Latest: 586.00	<u>H.P.</u> <u>2012-13</u> 2015-16	All Civil Works completed. Both the units are boxed up. During the filling of water conductor system in 1 st week of Nov., 2013, leakage occurred in penstock due to cracks. Rectification work completed in April, 2015. Unit #1 synchronized with grid on 30.10.2015, however, could not be commissioned due to non-availability of rated discharge. On 18-11-2015 when Unit # 2 was under trial run, there was rupture in the surface penstock pipe. Details of damage is being assessed by developer.	Repair of penstock work
37.	Tidong-I M/s NSL Tidong Power Gen. Ltd. 2x50 = 100 MW 28.07.2006 Broad Features: HRT-D-3.5m L- 8461 m P.H. Surface Turbine –Vertical Pelton Cost: <u>Original</u> 543.15 Latest 543.15	<u>H.P.</u> <u>2013-14</u> 2017-18	Head Regulator & Desilting arrangement: 7213 cum common excavation out of 10500 cum and 8550 cum open cut rock excavation out of 1000 cum completed. HRT (8526m): Excavation completed and 1493.87m lining completed. Surge Shaft: open excavation top 33982 cum / 38500 cum completed. Pressure Shaft: Excavation completed Power house and Tail race channel- 87446 cum out of 92500 cum excavation completed. 10286 cum out of 14325 cum concreting completed.	- Slow progress of works. - Transmission Line critical.
38.	Tangnu Romai-I M/s Tangnu Romai Power generation 2x22= 44 MW 30.11.2007 (HPSEB) Broad Features: Barrage at EL ± 2555 m HRT-3.1m dia & 7.220 km length Surge Shaft- 5m dia, Top Level 2570 m & Bottom Level 2520 m Penstock- 2 m dia & 609.3 m length P.House- Surface Turbine – Vertical Francis Cost: <u>Original:</u> 255.00 Latest: 255.00	<u>H.P.</u> <u>2014-15</u> 2018-19	Civil works awarded on 14.06.2010 to M/s Sai Urja Hydel Project (P) Ltd. Barrage and Diversion Cannel: 26211 cum out of 93800 cum excavation completed. Desilting Chambers & SFTPC: Excavation completed. SFT excavation 420 / 450.66 m completed. HRT: 2826m out of 6300m excavation completed. Power House, Switchyard & Misc.: 60275 m ³ out of 72000 m ³ excavation completed. In February-2015, due to land slide the steel bridge on Pabbar River, connecting Project components has been completely damaged. The restoration works are completed.	- Slow progress of works HRT critical, poor geology.

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State Comm. Sch. (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
39.	Phata Byung M/s Lanco 06.10.2008 2x38 MW = 76 MW Broad Features: Dam – 26m high HRT- 3.2 m dia & 9.38 km length Turbine – Frances Cost: <u>Original: 520.00</u> Latest : 520.00	<u>Uttara khand</u> <u>2013-14</u> 2017-18	Dam concreting: 17800/18000 cum concreting completed. P.H.: Excavation completed & Concreting in progress. HRT: Excavation 8474/9228 m completed. Excavation and lining of Intake-I & Intake-II completed. Cable tunnel: Completed. TRT: Excavation 178/235m completed. E&M Works: Pit liner erection of units completed.	- Works severely affected due to flash floods in June, 2013. - Restoration of Dam complex, main project component and infrastructure works are in progress.
40.	Singoli Bhatwari M/s L&T 11.07.2008 3x33 MW = 99 MW Broad Features: Barrage-FRL 1017 m, MDDL 1009 m, Barrage Top 1020m HRT- 4.65m dia & 11.870m length Surge Shaft-10 m dia & 102.85 m length Pressure Shaft-One, 3.80m dia & 358m length Penstock- 3 Nos., 2.20 m dia & 34m, 42m, 48m long. P. House-Surface Turbine-Vertical Francis TRT- Open Channel, 650m length Cost : <u>Original : 666.47</u> Latest : 666.47	<u>Uttara khand</u> <u>2015-16</u> 2020-21	River diversion – Completed. Dam & Dykes/Barrage: Excavation 69692/90744 cum and concreting 48156 / 76500 cum completed. HRT: Excavation 8961 / 11255 m completed. Overt Concrete Lining 1928 / 11255m completed. Invert Lining 1828 / 11255m completed. Pressure Shaft: Excavation 440.5/558 m completed. PH: Excavation completed & concreting 6517/18000 cum completed. Surge Tank: Excavation completed.	- Works severely affected due to flash floods in June, 2013.
41.	Maheshwar, SMHPCL 30 12 96/ 29.9.2006 (FC) 10x40= 400 MW Broad Features: Dam-35m High, concrete gravity P.Shaft-10x7.82m x 52m P.House - Surface Turbine- Kaplan Cost: <u>Original: 1569.27</u> Latest: 6793.00	<u>M. P.</u> <u>2001-02</u> 2017-18	Civil & HM Works: All major civil works completed. All 27 nos radial gates commissioned. Unit Erection: Unit-10: Initial spinning achieved on 14.10.2011. Unit-9 & 8: Ready for spinning. Unit-7: Guide apparatus trial assembly in progress. Unit-6: Erection of turbine embedded parts & foundation parts completed. Unit-5 to 1: Erection of units is in initial stages. Works suspended since Nov-11 due to cash flow problem with developer. In this regard, a high level committee under the chairmanship of Additional Chief Secretary(Finance) GoMP, was formed on 16 th Oct, 2014 to find ways to complete the project. The committee has submitted its report on 2.5.2015. The committee has recommended three scenarios for commissioning the Maheshwar Project. Under the first scenario, another attempt to complete the project with the present private developer has been envisaged. In this regard, the promoter has submitted a firm offer for equity + debt. The matter is under discussions between various stakeholders.	- Completion of R&R works and E&M works. - Works held up due to Fund constraints with developer.
42.	Teesta-III Teesta Urja Ltd. (*) 12.05.2006	<u>Sikkim</u> <u>2011-12</u>	Dam: CFRD filling completed. RCC cut off wall 726m out of 1311m completed. HRT: Excavation completed. 13776m overt lining completed	- Work held up since Sept, 2014 due to fund constraints.

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State Comm. Sch. (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
	6x200=1200 MW Broad Features: .Dam-Concrete with chute spillway 60m high. HRT- 7.5m dia, 13.325Km long. Press. Shaft- 3nos. 3.8m dia. Power House- Under ground Turbine- Pelton Cost: Original <u>5705.55</u> Latest 11382.00	2016-17	out of 13824 m and 13630m invert lining completed out of 13824 M. Surge Shaft: Excavation completed. 138.45m conc. lining out of 154.5m completed. Pressure Shaft-Vertical portion: Erection of steel liner 472.85m out of 659.70m for left pressure shaft and 343.75m out of 659.80m for right pressure shaft completed. Power House: Civil works almost completed. TRT: Excavation completed. Concreting almost completed. Unit Erection: Unit#1, 2, 3,5 & 6-: Stator & Rotor lowered. Unit#4: Stator lowered.	- Works re-started in October, 2015. - Pressure Shaft is Critical.
(*) w.e.f. 6-8-15, Teesta Urja Ltd. is a Govt. Of Sikkim Enterprise				
43.	Teesta-VI LANCO 27.12.2006 4x125= 500 MW Broad Features: Barrage: 34.27m high HRT- 2nos,13.7km long Pressure shaft: 4nos. 5.4m dia. 130m av length, TRT: 4nos 250m av length, 8.5m dia. PH- Under ground Turbine- Francis Cost: Original: <u>3283.08</u> Latest : 5400.00	<u>Sikkim</u> <u>2012-13</u> 2021-22	Barrage and Desilting: Excavation completed & concreting 98% of 380003 cum completed. HRT: Heading excavation 10650m and benching excavation 4270 m out of total 27505 m completed. Overt lining 1550 m completed. Surge Tank: Excavation completed & concreting under progress. Pressure Shaft: Underground excavation of 4 no. pressure shaft completed, lining of one no. pressure shaft completed, balance lining under progress. HM works : 2 nos. radial gates erection in bay 1&2 completed. Erection of 1 st stage embedded parts of radial gates in bay 3&4 under progress. Power House : Excavation completed & conc. 21945 / 44578 cum completed. Concreting to Draft Tube Liners for all the 4 nos. Units completed. Erection of spiral casing of Unit #1 completed. Transformer Cavern: Excavation completed & concreting 2539/7101 cum completed. TRT: Excavation & Lining almost completed.	- Works held up due to financial crunch with the developer.
44.	Rangit-IV Jal Power corp. Ltd. 06.07.2007 3x40= 120 MW Broad Features: Dam: Concrte 44m high .HRT : D- 6.4m L- 6.5km Power House : Surface Turbine: Francis Power House- Under ground Turbine- Francis Cost: Original: <u>726.17</u> Latest : 726.17	<u>Sikkim</u> <u>2012-13</u> 2018-19	Dam & Intake works: Excavation 409184 / 492775 cum completed and concreting 61045 cum out of 173229 cum completed. Excavation of road diversion tunnel has been completed. HRT: Excavation in progress and 3794 m out of 6488 m completed. Surge Shaft: Excavation has been completed & concreting yet to start. Power House: Excavation in Power House completed. Desilting chamber: Excavation 2143 m out of 3360 m completed.	- Financial crunch with the developer. - Work held up since Oct, 2013 due to fund constraints.

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State Comm. Sch. (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
45.	Bhasmey Gati Infrastructure 2x25.5= 51 MW Broad Features : Dam-33.2m High, Symmetrical gravity HRT-5.3m dia & 5.132 km length , Circular. Surge Shaft- 89.8m Hight & 14m dia. P.House-Outdoor Turbine-VF TRT-2 Nos, L- 50m each. Swityard- 132/11 KV Cost :Original : 408.50 Latest : 408.50	<u>Sikkim</u> <u>2012-13</u> 2019-20	Project is in initial stage of construction. Barrage: 12377 cum out of 217531 cum excavation completed. HRT: 65m out of 4552 m excavation completed. PH: Excavation 22% completed.	- Slow progress of works
B.	Hydro Capacity for benefits beyond 12th Plan			
	Central Sector			
1.	Tehri PSS, THDC, 18.7.06 Nov-11 (Revised CCEA) 4x250=1000 MW Broad Features : Surge Shaft: U/s – 2 nos. D/s – 2 nos Power House: U/G TRT: 2, Dia 9m and Length 1070m + 1160m Turbine: VF reversible pump turbine Cost: Original: 1657.60 Latest: 2978.86	<u>Uttara khand</u> <u>2010-11</u> 2019-20	EPC contract has been awarded on 23.06.11 with commencement date from 27.07.11. Upstream (Tehri Dam) and Downstream (Koteshwar Dam), intake and Head Race Tunnels (2 Nos.) already completed alongwith Tehri Stage-I works. Surge Shafts upstream (2nos- 140m): Crown slashing for shaft -1, 3.43 Th cum out of 3.85 Th cum done and for shaft – 2, 3.25 Th. Cum out of 3.85 Th. Cum completed. Butterfly Valve Chamber (BVC): Crown slashing with steel ribs completed. Benching work and additional stabilization work i.e. rock bolting and cable anchoring is in progress. Penstock Assembly Chamber (PAC): Crown slashing with steel ribs completed. Benching will start after two benches of BVC. PH: Underground excavation of PH 151737 Cum out of 164937 Cum completed. Surge Shafts downstream (2nos): Pilot shaft excavation for both the shafts completed. Excavation of drainage gallery around surge also completed. TRT (2 Nos- 1070m & 1160m): Heading in 559.50 m and drift in 136.50m out of 1070m in TRT-1 and Heading in 583.40m out of 1160 RM in TRT-2 has been achieved. E&M Works: Manufacturing & supplies are in progress.	- Poor Geology in under ground works of BVC & PSAC, TRT, PH Cavern etc. - Due to poor geology encountered during investigation, it was decided to shift service bay at other end of machine hall and accordingly power house layout has been revised. - Poor preparedness of contractor w.r.t. finalization of design & drawing, inadequate deployment of resources at project works. - Ban on mining activities in Asena Quarry since 01-4-2013. - Diversion of land for dumping area at village chopra.
2.	Lata Tapovan, NTPC Aug-2012 3x57= 171 MW Broad Features : Barrage-14 bays of 11m each HRT- 7.51 Km, 4.7m dia P.House- underground Turbine- V.Francis Cost: Original: 1527.00 Latest: 1527.00	<u>Uttara khand</u> <u>2017-18</u> 2021-22	Infrastructure works are almost completed. Main works to re-start after clearances from Hon 'ble Supreme Court. EPC contract for Civil & HM works awarded to M/s L&T on 17-08-2012. E&M package awarded to M/s BHEL on 07.12.12.	-Works of barrage & HRT yet to start due to protest by villagers. -Construction work stopped vide Hon'ble Supreme Court order dated 7.5.14.
3.	Vishnugad Pipakoti THDC 21.08. 2008 4x111= 444 MW	<u>Uttara khand</u> <u>2013-14</u> 2019-20	Civil and HM works awarded on 17.01.2014. E&M works awarded on 18.11.2014. Heading excavation for Diversion Tunnel (494m) completed. Benching excavation in progress.	-Disruption of works by local people.

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State Comm. Sch. (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
	Broad Features : Dam – 65m High, 89.3m long, concrete gravity HRT- 13.4 Km, 8.8m dia Horse shoe shape P. House-Underground 127mx 20.3mx 50m Turbine- Francis SWYD- 13.8/420 kV Cost: <u>Original: 2491.58</u> Latest: 2491.58		Pilot Tunnel excavation for desilting chamber 1 & 2 is in progress. Construction of Adits and infrastructure works are under prgroess.	
22b.	Subansiri Lower NHPC 09.09.2003 8x250= 2000 MW Broad Features : Dam –116m High, concrete gravity HRT- 8 x 9.5m x 1145m Power House- Surface Turbine- Francis SWYD- 16/400 kV Cost: <u>Original: 6285.33</u> Latest: 18063.89	Arunachal Pradesh Assam <u>2009-11</u> 2020-21	Dam: Excavation- 169441 cum completed out of 173000 cum. Concreting: 575426 cum completed out of 1823782 cum. Intake Structure: 261377 cum concreting completed out of 279454 cum. Head Race Tunnel (I-VIII): 7050 m heading excavation completed out of 7124m. 4279 m benching excavation completed out of 7124 m. 3199 m concrete overt lining completed out of 7124 m. Surge Tunnels (8 nos.): 3109 m heading excavation completed out of 3545 m. Pressure Shaft- Vertical Pressure Shaft Slashing: 199 m excavation out of 384 m completed. Surface Power House: Concreting: 124887 cum out of 302600 cum completed. E&M Works: Unit #1: Elbow erection (1 to 6) and Turbine stay ring and Spiral case erection completed. Unit #2: Elbow erection (2 to 6) and Turbine stay ring and Spiral case erection completed. HM Works: Erection of diversion tunnel gates 23% completed. Erection of Intake-5: 2% completed. Erection of Intake 7 & 8 – 20% completed each. 201 m pressure shaft steel liner erected out of total 1594 m. Work stopped since 16.12.11 due to agitation launched by various activists against construction of Subansiri Lower HE Project. In this regard, as decided in the tripartite meeting dated 06.12.13, discussions between Expert Group formed at the request of AASU (All Assam Students Union) and Experts of Govt. of India & NHPC was held on 23.12.13. Last meeting between Expert Group of Assam and Experts of Govt. of India was held on 02.06.14 at Guwahati. Thereafter, meetings with Expert Group of Assam on 10.12.2014 and with various Stakeholders of Subansiri Lower Project on 11.12.2014 were held to discuss the issues. The meetings were Co-chaired by Hon'ble MOS (I/C) for Power, Coal and New & Renewable Energy and Hon'ble MOS (I/C) for Skill Development, Entrepreneurship, Youth Affairs & Sports. As decided in stakeholders meeting on 11.12.2014, a Project oversight Committee (POC) has been constituted vide MoP's OM dated 13.01.2015. 11 meetings of the POC have been held so far and draft report prepared.	- Signing of MoU with State Government of Assam. - Issue of Downstream Impact Assessment & demand for stoppage of works by anti dam activists. -Since 16.12.2011 works stopped due to agitation by various activists of Assam.
4.	Ramam-III NTPC Hydro Ltd.	<u>West Bengal</u>	Infrastructure works are in progress. Civil & HM works of Barrage including Part HRT Package	

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State Comm. Sch. (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
	10.09.14 3x40 = 120 MW Broad Features : Run of the River Scheme Cost : Original: 1381.84 Latest : 1381.84	<u>2019-20</u> 2019-20	awarded to M/s Simplex –Apex JV on 10.09.14. Civil & HM works of Power House including Part HRT awarded to M/s SEW Infrastructure Ltd. on 12.12.2014. Electro-Mechanical (EM) Package awarded to M/s BHEL in Feb-2015.	
	State Sector			
5.	Shahpurkandi Irrigation Deptt. &PSPCL 04.05.2011 3x33+3x33+1x8=206 MW Cost: Original: 2285.81 Latest 2285.81	<u>Punjab</u> <u>2017-18</u> 2019-20	Civil works of Main Dam and Hydel Channel awarded and are under construction Main Dam: 1286552 cum Excavation out of 1981500 cum and 89286 cum concreting out of 1135295 cum completed. Hydel Channel: 2696210 cum excavation out of 3900000 cum and 24223 cum concreting out of 42864 cum completed.	-Works of Dam stopped since 29.08.2014 due to inter-state dispute between states of J&K & Punjab.
6.	Shongtong Karcham H.P. Power Corpn. Ltd. Clearance: 16.08.2012 3x150= 450 MW Broad Features: Intake Tunnel: 4 Nos. Horse shoe 6.4m dia 192 to 280m length HRT- Circular, 10.5m dia, 8096m long. Power House- Under ground Turbine- VF. Switchyard: 400 Kv. Cost: Original: 2807.83 Latest: 3316.35	<u>H.P.</u> <u>2017-18</u> 2018-19	Excavation of Diversion Tunnel and Adits to HRT is under progress. Benching of Power House cavity is in progress. Works hampered in some portion of HRT due to re-location of Army ammunition depot. Issue is under resolution between Army, GoHP & HPPCL.	-Issues with Army authorities for shifting of ammunition depot.
7.	Vyasi UJVNL 25.10.2011 (TEC) 2x60= 120 MW Broad Features: Dam: Conc. Gravity H- 86m L-207.2m HRT- Circular, 7m dia, 2.7Km long. Power House- Surface Turbine- VF. Switchyard: 220 Kv. Cost: Original: 936.23 Latest: 936.23	<u>Uttarakha</u> <u>nd</u> <u>2018-19</u> 2018-19	Civil Works: Dam : Excavation of Dam block nos. 1,2,3,4,11,12,13 have been completed,support system work is in progress.Galleries excavation is in progress. Diversion Channel : Excavation of Channel completed and Construction of 230 m out of 370 m has been completed. Head Race Tunnel (2.7 Km): Excavation of HRT completed. 48 m Overt lining of HRT has been completed. Pressure Shaft & Pressure Shaft : 20m Excavation in pressure shaft no.1 and 16m excavation in Pressure shaft no. 2 completed.Excavation of Surge shaft is in progress. E &M works Works has been awarded to BHEL. .	E&M works are Critical.
8.	Koyna Left Bank PSS WRD, Mah. 20.02.2004 2x40 = 80 MW Broad Features: Water from the existing Shivaji Sagar Lake (Koyna reservoir) is to be utilized for generation. Intake Tunnel: Dia – 7.20 M Length – 235.5 M (including Lake tap)	<u>Maha</u> <u>rashtra</u> <u>2017-18</u> 2018-19	Civil Works: Excavation of intake structure 4781 cum out of 14105 cum and lining 2485 cum out of 3381 cum completed. Excavation of Switchyard completed. Excavation of Approach tunnel & Ventilation tunnel is in progress. Tail surge shaft : Excavation in soft strata completed. Excavation for inclined / vertical / lateral shafts in hard rock 6448 / 9223 cum completed. TRT : 364 / 24003 cum excavation completed. Machine Hall : Underground Excavation is under progress. 22600 cum excavation out of 55050 cum completed. E&M works: The contract for details engineering manufacturing supply, supervision erection, testing commissioning and putting into	-Slow progress of works. -Funds constraints due to increase in Project cost. RCE under approval.

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	HRT: Dia – 7.20 M Length – 80 M Penstock – 2 nos , Dia – 2.9M Length – 10 M each P.House – Underground Turbine – Reversible Cost: <u>Original:</u> 226.40 Latest: 379.78		commercial use of pump turbine, generator motor and associated equipments is signed with M/s IVRCL Ltd., Pune on 16.12.2010. Further TG set has been ordered as under: Turbine/Pump: M/s Litosroj Power, Slovenia (European Union) Generator/Motor: M/s Koncar Power, Plant & Electric Traction Engineering, Croatia (European Union). EOT Crane :- Works awarded to M/s Pedvak Cranes Private Limited Hyderabad on 12.04.2013.	
9.	Polavaram Polavaram Project Authority 21.07.2010/ 25.02.2009 12x80= 960 MW Cost: <u>Original:</u> 16010.45 Latest: 16010.45	Andhra Pradesh <u>2021-22</u> 2021-22	Pre-construction and Infrastructural works are in progress. Civil Works:- Civil works awarded on 01/2012-13, 02.03.2013. ECRF DAM: Earth work of 73.668 L.Cum of total 829.451 L.Cum is completed. SPILLWAY: Earth work of 51.4273 L.Cum of total 162.9584 L.Cum is completed & embankment of 1.345 L.Cum of total 2.4907 L.Cum is also completed. POWER HOUSE: Earth work of 37.2413 L.Cum of total 111.7206 L.Cum is completed & embankment of .9022 L.Cum of total 30.3694 L.Cum is completed. B) HM & E&M Works:- H.M & E&M works are yet to be awarded.	- Works under progress, however there is Inter State Issue-Public hearing for construction of protective embankment to be held in Oddisha and Chhattisgarh as desired by MOEF. - Funds Constraint
	Private Sector			
10.	Ratle Ratle Hydro Electric Project Pvt. Ltd. 19.12.2012 4x205+1x30= 850 MW Broad Features : Dam Height-133m Length-194.8m Spillway-Radia Gate-(5) Size-10.75x1420 m Diversion Tunnel:2 Nos., Circular (Right back) Pressure Tunnel:11m dia each. Pressure Shaft : 6.6 m each steel lined. P.House-Underground Turbine- Francis Average Gross Head-100.39m Addl. Unit(30MW) Housed in Main P.H. Cavity) Rated Head-98.9m Cost : <u>Original:</u> 5517.02 Latest : 5517.02	<u>J&K</u> <u>2017-18</u> 2021-22	EPC Contract for Civil & HM works awarded to M/s GVK Projects & Technical Services Limited on 04.07.2013. The infrastructure works of Road & Bridges was under progress and erection of upstream Bridge completed & downstream Bridge was in progress. Works have been suspended at Project site due to frequent local disturbances since 11.07.2014. Power Development Department, GoJK have been requested to resolve the various critical issues including 1) resolving of disturbance at site 2) restoration of congenial atmosphere and 3) IWT issues for resumption of works at site.	- Presently works are under hold. - Local Issues
11.	Bajoli Holi M/s GMR Bajoli Holi Hydro Power Pvt. Limited 31.12.2011 3x60= 180 MW Broad Features Dam Height-66 M Dam Length-178 M	<u>H.P.</u> <u>2017-18</u> 2019-20	-Civil Works awarded to M/s Gammon India Ltd. on 29.05.2013. -Excavation & lining of diversion tunnel has been completed. -HRT and Audits work are in progress. -73% excavation of powerhouse completed. -Excavation of pressure shaft just started.	-Slow progress of works

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	Desilting Chamber- 2 Nos. 240 Mx14.5 MX 10.8 M HRT- Length-15.538 Km., 5.6 M dia P.H. –Surface Cost: <u>Original</u> 1696.93 Latest 1696.93			
12.	Chanju-I M/s IA Energy 24.04.2010 3x12=36 MW Cost : <u>Original</u> : 295.09 Latest : 295.09	<u>H.P.</u> <u>2017-18</u> <u>2017-18</u> (Likely to advance to 2016-17)	Barrage: 279000 cum excavation out of 287700 cum has been completed. Concreting 15470 cum out of 35150cum completed. Desilting Basin including Flash arrangement: Excavation completed. 3495 cum concreting out of 3510 cum completed. HRT : Excavation completed and 3257/5335m concreting completed. Surge Shaft: Excavation completed (532 m) Penstock/Pressure Shaft: Excavation completed. Concreting 220m out of 720n completed. Power House: Excavation completed. 6221 cum/6640 cum concreting completed. TRT (56m): Completed. E&M Works: 60% works completed.	
13.	Tashiding M/s Shiga Energy Pvt. Ltd. 28.03.2011 2x48.5 = 97 MW Broad Features : Barrage-EL 917m HRT-4.5 m dia & 5.437 km length , Surge Shaft- 61.058m Height & 8.5m dia. Penstock- Length upto Bifucation 441.53 m After bifurcation 25 m & 30 m long P.House-Surface TRT- Open Channal & 78.5 m length. Swityard- Outdoor, 220 KV Cost : <u>Original</u> : 465.95 Latest : 465.95	<u>Sikkim</u> <u>2017-18</u> <u>2017-18</u> (Likely to advance to 2016-17)	River Diversion achieved on 06/01/2015. Barrage: Excavation of Barrage body completed including left & right bank excavation. Concreting in upstream apron as well as main barrage body raft including CC blocks also completed. Diversion Tunnel: Excavation completed. HRT (Total- 5437m): Excavation completed. Concreting 5266m Invert & 2827m Overt completed. Surge Shaft: Surge Shaft portal is ready and underground excavation of Adit to Surge Shaft top was completed on 28.05.2015. Leveling of concreting of Penstock Tunnel also completed. Penstock: Underground excavation completed and Ferrule Erection & Backfill concreting is in progress. E&M Works: The contract for E & M works was awarded to M/s ALSTOM Projects India Ltd. on turnkey basis. M/s ALSTOM Projects India Ltd. has submitted the model test report and same has been accepted. Power House: Power House open excavation along with slope protection was completed in the month of Feb' 2014. Thereafter, 1st & 2nd stage concreting of both the units completed. Up to EL 682.50m. Raft concreting upto 685.60m completed.Draft tube Liner of both Unit # 1 & #2 has been placed in position & its alignment & concreting completed. Civil front handed over to E&M contractor for scroll case & MIV Erection.	- Poor geology. - Local issues.
14.	Dikchu Sneha Kinetic Power Projects Pvt. Ltd. 21.10.2011 3x32= 96 MW Broad Features : Dam-35m High, Concrete Gravity HRT-4m dia &4.6 km length Circular. Surge Shaft- 65m High & 9m dia. P.House-Underground	<u>Sikkim</u> <u>2017-18</u> <u>2017-18</u> (Likely to advance to 2016-17)	Dam: Excavation 54000 cum out of 86762 cum completed. HRT: Excavation 72 RM out of 5456 RM completed. Power House: Excavation 22317 cum out of 43570 cum completed. TH: Excavation 8914 cum out of 9177 cum completed. TRT: Excavation 195 Rm out of 295 Rm completed. Main Access Tunnel: Excavation completed.	Slow progress of works

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	Turbine-Vertical Francis TRT-4m dia & 1000m length Swityard- 60mx30m size Cost : Original :639.57 Latest : 639.57			
15.	Rangit-II Sikkim Hydro Power Limited 10.02.2010 2x33= 66 MW Broad Features : Dam-47m High, Concrete Gravity HRT-3.9m dia & 4.745 km length , Surge Shaft- 65.5m High & 10m dia. Underground Pressure Shaft : 1.7 m dia & 2.5 km length. P.House-Outdoor Turbine- Pelton Vertical Swityard- GIS, 132/11KV Cost : Original : 498.00 Latest : 498.00	<u>Sikkim</u> <u>2017-18</u> 2019-20	EPC contract awarded to M/s Coastal in February, 2012. Works of approach roads and excavation of adits are in progress. Protection wall works under progress. Adit to HRT: Underground excavation is in progress. Diversion Tunnel: Excavation is under progress. Surge Shaft: Excavation is under progress. Power House: Excavation of surface power house is being taken up.	Slow progress of works
16.	Rongnichu Madhya Bharat Power Corporation Ltd. 01.10.2008 2x48= 96 MW Cost : Original : 491.32 Latest : 491.32	<u>Sikkim</u> <u>2015-16</u> 2019-20	The civil works have been awarded to M/s SEW Infrastructure Ltd. and E&M works to M/s Voith Hydro Power Pvt. Ltd. Award of HM works is likely to be placed by August, 2012. Pre-construction activities and excavation of adits are in progress.	- Land acquisition. - Poor geology.
17.	Panan Himagiri Hydro Energy Pvt. Ltd. 07.03.2011 4x75= 300 MW Broad Features : Dam-115m from deepest foundation level Desilting Chambers : Underground, 2 Size (14Lx22Wx2.5H) HRT- modified horse shoe, 6 m dia & 9549m length , Surge Shaft- 102 m High & 15m dia. Pressure Shaft : 2/4, 3.4/2.4m dia, 707.4 m-Height P.House-Surface Turbine-Vertical Francis Cost : Original: 1833.05 Latest :1833.05	<u>Sikkim</u> <u>2018-19</u> 2020-21	Civil works awarded on 22.02.2014. Infrastructural works and geological investigations are in progress. Starting of civil construction works in full swing is held up for want of the National Wild Life Board (NWLb) clearance. Application submitted through Sikkim Govt. in July 2010. MoEF, GOI web hosted in Eco-sensitive zone from KNP on 14/10/2014. Clearance from NWLB received in December, 2015. However, a case with NGT is pending.	- NGT Issue.

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18.	Gongri Dirang Energy Pvt. Ltd. 04.02.13 2x72= 144 MW Broad Features : Barrage-H-29m, L- 216.5m MDDL- EL 1447m Spillway-2nos. Radial Gates; 2 Nos. 10.5m x 13m Intake: EL1438m Desilting Chambers : 2 nos. (260Lx13Wx16H) HRT- modified horse shoe, 5.8 m dia & 7137m length , Surge Shaft- 92 m High & 13m dia. Pressure Shaft : 4.4m dia, 647.26m length bifurcating into 3.1m dia & 28.51m & 34.5m length P.House-Surface Turbine- Vertical Francis Cost : Original: 1436.27 Latest :1436.27	Ar. Pradesh <u>2017-18</u> 2020-21	EPC contract for all works awarded to Patel Engineering Ltd., Mumbai on 22-11-2011. TEC accorded on 04-02-2013 & Financial closure achieved on 15-02-13. The EPC contract for E&M works has been awarded to M/s. Andritz Hydro Pvt. Ltd. Consent to establish from State Pollution Control Board was issued on 19-05-2014. Construction of 3 nos. of Bailey bridges for connecting the banks of the Gongri river is in progress. Open Excavation of PH pit & Barrage is in progress.	-works awarded on 22.11.2011. However, consent to establish from SPCB was issued on 19.05.2014